



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,836	07/24/2001	Hiroshi Tanaka	Q65448	4281

7590 08/08/2006

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3202

EXAMINER

BAYERL, RAYMOND J

ART UNIT	PAPER NUMBER
----------	--------------

2173

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/910,836	Applicant(s) TANAKA ET AL.	
	Examiner Raymond J. Bayerl	Art Unit 2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 9/6 is/are allowed.
- 6) ☒ Claim(s) 1 - 5, 7, 9/5, 9/7, 10 - 29 is/are rejected.
- 7) ☒ Claim(s) 8, 9/8 is/are objected to.
- 8) ☒ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2173

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 3, 19, 20, 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3: the phrase “the mobile image data storage device” lacks clear antecedent basis in parent claim 1, where only a “portable image data reception device” appears.

Claim 19: “the medical image management system of claim 18” is uncertain, when claim 18 is instead directed to “The medical data storage apparatus used in the medical image management system of claim 1” (see below discussion regarding 35 USC 112, 4th paragraph).

Claims 20, 22: problems similar to those seen in claim 19 exist, regarding “the medical image management system of claim...”, when the parent claims are not directed to such a system.

3. The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

4. Claims 3, 4, 11 – 13, 15 – 22, 27 - 28 are rejected under 35 U.S.C. 112, 4th paragraph, for failing to incorporate by reference all the limitations of the claims to which they refer.

Applicant has chosen a dependent claim structure for these claims such that what is being claimed is just a part of the parent claim, and the claim does not have to incorporate the entirety of the parent claim limitations, which runs contrary to proper dependent claim format.

To give an example, claim 1 is directed to a “medical image management system” having “a portable image data reception device” and “an image data storage apparatus”, but claim 3 limits itself to just “The portable image data reception device”, and is not required to incorporate the remaining details such as those regarding the “image data storage apparatus”.

Other claims have a similar problem in this regard:

Claim 4: “The image data storage apparatus” without “the medical image management system”;

Claim 11: “The medical image data storage means” but no “management system”;

Claims 12, 13, 18 – 22, 27 - 28: “The image data storage apparatus” without the “management system”.

Claims 16 and 17 are directed to “A computer-readable recording medium storing a program to cause a computer in the image data storage apparatus used in the medical image management system of claim...to execute the procedures of”. But this does not incorporate the limitations of respective claims 5, 6, which are to the overall “medical image management system”—only to a procedure directed to a portion of it. A similar problem exists with the “computer-readable recording medium” of claim 15 that

is merely used to operate the “portable image data reception device”, without incorporating limitations of the “medical image management system” in claim 1.

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1 – 5, 7, 9/5, 9/7, 10 – 16, and 18 – 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Howards Koritzinsky et al. (“Howards Koritzinsky”; US# 6,598,011 B1) in view of Sitka et al. (“Sitka”; US# 6,349,373 B2).

As per independent claim 1’s “medical image management system”, Howards Koritzinsky discloses a medical image management system that includes medical diagnostic data acquisition equipment, as well as picture archiving communications and retrieval systems (see col. 5, lines 25-30).

The claimed set of a “portable image data reception device” that obtains information from “medical image data storing means”, with “a function of storing the medical image data sets” reads upon the architecture and layout of Howards Koritzinsky’s service system 10 which is illustrated for providing remote service to a medical diagnostic system 12. **In Fig.1**, the medical diagnostic systems include a magnetic resonance imaging (MRI) system 14, a computed tomography (CT) system 16, and an ultrasound imaging system 18. These are “images of patients” (claim 27), and “one of X-ray images, CT images, and MR images” (claim 28). The diagnostic systems may be positioned in a single location or facility, such as a medical facility 20 (see col. 4, lines 30-37), where system controllers such as unit 46 (computing systems capable of local storage, and thus reading upon “image data storing means”) are

collectively connected to personal computer 72 ("portable image data reception device"; a personal computer is capable of being carried about, especially in the case of a laptop or notebook device), which then connects via a remote access network 80 to a remote service facility 22 (col 6, lines 5 – 48).

As per claim 1's "image data storage apparatus", Howards Koritzinsky teaches linkage to service facility 22 via the remote access network 80...Data may be exchanged between the diagnostic systems, field service units, and remote service facility 22 in any suitable format (see col. 6, lines 34-41) and a local storage source at the diagnostic system, as well as from a remote library (see col. 4, lines 15-17). While this shows a connection *per se* to a "storage apparatus", it does not **explicitly** disclose that the actual "image data sets" are maintained at the remote location; the emphasis of Howards Koritzinsky is more upon the ability to provide service and support over the network.

However, Sitka's direct storage manager (DSM) 220, used for hospital film archival procedures, has a centralized location within archive server 160 that actually stores "image data sets" in the style of applicant's "image data storage apparatus". Furthermore, Sitka teaches controlling the management of the "image data" in one of a short term storage device 170, mid-term storage device 180 and long term storage device 190 (see col. 5, lines 6-8 and see Fig. 2) based on predetermined period of time (see blocks 340 and 360 in Fig. 3). This means that in Sitka, a form of "storage period management means" is provided for "managing a storage period of each of the medical image data sets", depending upon which form of memory is used.

It would therefore have been obvious to a person having ordinary skill in the art at the time the invention was made to include Sitka's time-dependent, archival "storage apparatus" into the Howards Koritzinsky's arrangement of connected computing devices, at the acquisition, transmission and centralized sites. By so doing, Howards Koritzinsky's "image data sets" would be properly maintained in the form of storage that best meets the storage and access objectives of the medical image system. Howards Koritzinsky has an improved ability to provide needed images and retain them as future needs might require, by using a "storage apparatus" such as Sitka's at the facility 22 location.

Independent claim 5 contains similarity to claim 1, except that the "medical image data storage means" is recited as being directly connected to the "data storage apparatus", this having the above-discussed "storage period management means". But the controllers such as unit 46 in Howards Koritzinsky's fig 1 can be said to have such connectivity, even through the intermediate computer 72. Howards Koritzinsky's arrangement even shows direct connections between the originating "storage means" units and the remote facility 22, which as per Sitka would be an "apparatus" that judges a "storage period" by the memory types used. Lengths for retention are established in the Sitka memory, and thus "a fixed storage period" is further used (see also claim 29).

As per independent claim 14, the connection of "storage means" to "storage apparatus", with "managing a storage period", is generally similar to claim 5 and is rendered obvious under Howards Koritzinsky/Sitka for reasons similar to those developed above.

Claim 2's "transmitting a reception completion signal to the medical image data storage means at the time of reception completion of the medical image data sets" will be found in the manner of signal transmission that one would find in a networked arrangement such as Howards Koritzinsky's, when made to have storage as per Sitka. When the "reception" is complete at personal computer 72 from an image source, there will inevitably be a signal from that device in Howards Koritzinsky that is the last. This will also be the case with the use of "a storage completion signal" from the "image data storage apparatus" (claims 9/5, 9/7). When the central storage needs to obtain such an upload, on the other hand, "a reception request signal" (claim 7) will advantageously be processed to the local storage device in the Howards Koritzinsky arrangement.

As per claim 3, the rejection of claim 1 establishes that the prior art combination will be enabled for "receiving the medical image data sets stored in the medical image storage means" in Howards Koritzinsky's pathway from the controller 46 to the computer 72, and then to the network 80. At the computer 72 location, "storing the medical image data sets" will then occur. A similar line of reasoning applies to claim 4 (see also claim 11), in which the "image data storage apparatus" (suggested by the use of an archive server as per Sitka in at the location 22 of Howards Koritzinsky) is capable of "receiving the medical image data sets transmitted from the portable image data reception device" and "storing" them with "storage period management"—the computer 72 of Howards Koritzinsky will read data contents as per its disclosed functionality to the central site, that has storage of its own such as Sitka's. See also claim 15's additional recitation in the "computer-readable recording medium", where the "reception device"

Art Unit: 2173

reads from the “storage means” more directly associated with the acquisition, then transmits to “the image data storage apparatus”. The “image data storage apparatus”, as suggested by Sitka, is then capable of “managing the storage period” (claim 16; see also claim 12).

The capability for “outputting a desired one of the medical image data sets” (claims 10, 13) would be seen in any archiving arrangement such as Sitka’s, which to be useful would have to store and output together.

In choosing a destination for the storage in Sitka, between short-term, mid-term and long-term, the “image data storage apparatus” effectively “determines a fixed storage expiration date” (claims 18, 21, 23). A “storage period” is thereby specified (claim 24), and a Sitka-style archive jointly involves “the storage period” inherent in the destination device and “at least one of a date of reception” (claims 19, 22). Sitka further considers “at least one of a type” (claims 20, 25), since an image “type” is invariably involved in the Sitka storage choice. In the overall process, the length of the Sitka storage should result in “disposing each of the medical image data sets” (claim 26), when the “storage expiration date” inherent in the storage is reached.

7. Applicant’s arguments filed 20 July 2006 have been fully considered but they are not persuasive.

Applicant asserts that “For reasons submitted in the Response of March 20, 2006, claim 1 – 28 are patentable and claim 29 is patentable at least by virtue of its dependency from claim 1”. These arguments were addressed in the advisory action mailed 30 March 2006.

Applicant did not believe that the Howards Koritzinsky personal computer 72 could be properly compared to a “mobile” (now “portable”) image data reception device. However, it is known that computers on the model of the personal computer 72 may be moved, and the reference properly teaches “portable” units that handle medical image data.

Concerning the transmission of a reception or a completion signal to the medical image data storage means, applicant states that the transmission from the subsystem 12 in Howards Koritzinsky differs from transfer to a medical image data storage means as per the claims. However, the personal computing device 72 and remote archiving station 22 as per Howards Koritzinsky will each transmit final signals to a “medical image data storage means” at the local facility site where data is initially buffered. Please note the new interpretation that can still be given to Howards Koritzinsky, to show this style of archive storage interaction with local devices that obtain and buffer medical image data.

Applicant argues that there is no teaching, suggestion or motivation for a fixed storage expiration date as claimed, since in Sitka, when an image has been requested during predetermined time periods, the image is not moved to a longer term storage device, and that “the expiration dates would be variable, depending on whether the image has been requested”. However, the Examiner first wishes to note that not all of the claims have the “fixed” time period set for the medical images. But even where it **does** appear, the Sitka use of various lengths of memory will set a “fixed” time limit at

Art Unit: 2173

the time a storage is designated; the Examiner is unable to “read in” what applicant would like to the word “fixed”.

8.a. Claims 8, 9/8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8.b. Claims 6, 9/6, 17 are allowable over the prior art of record, claim 6 having been placed in independent claim form, only claim 17 has the above noted problem under 35 USC 112, 4th paragraph, with regards to incorporating parent claim 6 by reference.

The reasons for allowance rest in the monitoring of the “medical image data storing means” to see if “a total amount of the medical image data sets stored” has a difference with respect to “a capacity of the medical image data storage means”, so that “receiving the medical image data sets” (claim 6) and “transmitting the reception request signal to the image data storage apparatus” (claim 8) will occur “when the difference becomes smaller than a predetermined value”. Howards Koritzinsky, while teaching a networked connection that has storage-bearing intermediate computer nodes, does not teach or suggest this form of monitoring of storage content, nor does Sitka, who merely teaches storage *per se* in an archiving device.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


During a new and updating search, the Examiner noted the further relevance of Wang et al. (US #2005/0154288 A1) and Patel et al. (US #6,947,581 B1), directed to the archiving of medical image data.

Art Unit: 2173

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond J. Bayerl whose telephone number is (571) 272-4045. The examiner can normally be reached on M - Th from 9:30 AM to 4:30 PM ET.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid, can be reached at 571-272-4063. All patent application related correspondence transmitted by FAX **must be directed** to the central FAX number (571) 273-8300.

12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.



RAYMOND J. BAYERL
PRIMARY EXAMINER
ART UNIT 2173

4 August 2006